AMENDMENTS TO THE CLAIMS

1.   (Previously presented) A computerized system, comprising:

(a)   a plurality of data stores, each data store comprising a different data type configured to store at least one data store object;

(b)   an object-oriented heterogeneous data store interface comprising:

(i)   a data store component corresponding to each data store, the data store component logically related to an identity service component, the data store component being associated with a data store administrator group, the data store administrator group having the ability to add and remove permissions to access the data store component, the identity service component including a directory of each data store component;

(ii)   an enterprise component corresponding to the data store component, the enterprise component referencing the data store component by utilizing the directory included in the identity service component, the enterprise component:

(1)   referencing at least one identity service component;

(2)   configured to load missing identity service components, unload unneeded identity service components, and query for identity service component updates; and

(3)   associated with an enterprise administrator group, the enterprise administrator group having the ability to grant, view, change, and remove access permission for each data store user;

(iii)   a query component comprising a query specification attribute;

(iv)   a provider interface comprising a query component behavior specification specifying a query behavior with said query specification attribute of said query component; and

(v)   a data store object component corresponding to each data store object stored in each data store;

(c)   for each data store, a provider plug-in to the object-oriented heterogeneous data store interface, each provider plug-in comprising at least one provider component configured with a behavior conforming to the query component behavior specification of the provider interface; and

(d)   a data store object source code generator configured to generate object-oriented programming language source code for each data store object component of the object-oriented heterogeneous data store interface.

2.   (Previously presented) The computerized system of claim 1, wherein:

the data store component comprises a commit component behavior specification specifying a commit behavior with a data store object component parameter;

the data store object component comprises:

a get value component behavior specification specifying a get value behavior with a data object attribute index parameter;

a get object component behavior specification specifying a get object behavior with a data object attribute index parameter; and

a get list component behavior specification specifying a get list behavior with a data object attribute index parameter; and

each provider plug-in further comprises at least one provider object component, each provider object component configured with:

a get value behavior conforming with the get value component behavior specification of the provider object interface;

a get object behavior conforming with the get object component behavior specification of the provider object interface;

a get list behavior conforming with the get list component behavior specification of the provider object interface; and

an index of attributes of at least one of said at least one data store object.

3.   (Previously presented) The computerized system of claim 2, wherein the provider object interface is further configured with:

a set value component behavior specification specifying a set value behavior with a data object attribute index parameter;

a set null value component behavior specification specifying a set null value behavior with a data object attribute index parameter;

a null value test component behavior specification specifying a null value test behavior with a data object attribute index parameter; and

a populated value test component behavior specification specifying a populated value test behavior with a data object attribute index parameter.

4.   (Previously presented) The computerized system of claim 1, wherein:

the object-oriented heterogeneous data store interface further comprises at least one data store object component, each data store object component corresponding to a data store object; and

the provider interface further comprises:

a connect component behavior specification specifying a connect behavior;

a disconnect component behavior specification specifying a disconnect behavior; and

a commit component behavior specification specifying a commit behavior with a data store object component parameter.

5.   (Original) The computerized system of claim 4, wherein:

each data store object component comprises a data store operation attribute;

each provider component is further configured with a commit behavior conforming to the commit component behavior specification of the provider interface; and

the data store operation attribute of the data store object component parameter of the commit behavior of the provider component indicates a data store operation to occur during the commit.

6.   (Previously presented) The computerized system of claim 1, wherein the object-oriented heterogeneous data store interface further comprises:

for each data store object stored in each data store, a data store object component; and

a data store component corresponding to each data store configured to provide a subset of the data store object components in response to the query component.

7.   (Original) The computerized system of claim 1, wherein the query component is configured with:

an add expression behavior having:

at least one query term parameter; and

a query operator parameter; and

an add conjunction behavior having a query conjunction parameter.

8.   (Original) The computerized system of claim 7, wherein the add expression behavior of the query component further has a query component parameter.

9.   (Previously presented) The computerized system of claim 1, wherein:

each data store object stored in said at least one data store comprises at least one data object attribute; and

each data store object component of said object-oriented heterogeneous data store interface comprises a field list attribute comprising a field specification for at least one data object attribute of the data store object corresponding to the data store object component, the field specification comprising a defer property specifying that retrieval of the data object attribute is deferrable.

10.   (Previously presented) The computerized system of claim 9, wherein:

said at least one data store object attribute comprises a data object attribute referencing a list of data store objects stored in said at least one data store; and

the field specification for the data object attribute referencing the list of data store objects further comprises:

a schema path property for retrieving said list of data store objects from said data store specifying, at least:

a type of data object in the list of data store objects;

a first attribute of each data object in the list of data store objects;

a second attribute of the data object corresponding to the data store object component containing the field specification; and

a relationship between the first attribute and the second attribute.

11.   (Previously presented) The computerized system of claim 10, wherein the schema path property specifies:

more than one type of data object; and

at least one relationship between attributes of each data store object.

12.   (Canceled)

13.   (Previously presented) A computer-readable storage medium having stored thereon computer-executable instructions for performing a method for a query component to specify a particular subset of a data store component comprising:

(a)   instantiating a first query component in a plurality of query components of an object-oriented heterogeneous data store interface, the object-oriented heterogeneous data store interface comprising: a data store component corresponding to each data store, the data store component logically related to an identity service component, the data store component being associated with a data store administrator group, the data store administrator group having the ability to add and remove permissions to access the data store component, the identity service component including a directory of each data store component;

(b)   instantiating an enterprise component corresponding to the data store component, the enterprise component referencing the data store component by utilizing the directory included in the identity service component, the enterprise component:

(i)   referencing at least one identity service component;

(ii)   configured to load missing identity service components, unload unneeded identity service components, and query for identity service component updates;

(iii)   associated with an enterprise administrator group, the enterprise administrator group having the ability to grant, view, change, and remove access permission for each data store user; and

(iv) comprising a data store object component corresponding to each data store object stored in each data store;

(c)   instantiating a query component comprising a query specification attribute; and a provider interface comprising a query component behavior specification specifying a query behavior with said query specification attribute of said query component; each query component of the object-oriented heterogeneous data store interface having an add expression behavior, the add expression behavior having:

(i)   at least one query term parameter; and

(ii)   a query operator parameter;

(d)   adding a query expression to the first query component with the add expression behavior of the first query component;

(e)   providing the first query component to a data store component of the object-oriented heterogeneous data store interface; and

(f)   providing a data store object source code generator configured to generate object-oriented programming language source code for each data store object component of the object-oriented heterogeneous data store interface.

14.   (Previously presented) The computer-readable storage medium of claim 13, wherein:

each query component further has:

a query conjunction behavior;

a begin group behavior; and

an end group behavior; and

the method further comprises:

adding a query conjunction to the first query component with the add conjunction behavior of the first query component;

adding a begin group to the first query component with the begin group behavior
of the first query component; and

adding an end group to the first query component with the end group behavior of
the first query component.

15.   (Previously presented) The computer-readable storage medium of claim 13,
wherein:

each query component specifies a subset of enterprise data objects;

each query component further has:

a get extensible markup language (XML) behavior; and

a set from extensible markup language (XML) behavior; and

the method further comprises obtaining an extensible markup language (XML)
representation of the subset of enterprise data objects specified by the first query component with
the get extensible markup language (XML) behavior of the first query component.

16.   (Previously presented) The computer-readable storage medium of claim 13,
wherein:

the method further comprises instantiating a second query component of the object-
oriented heterogeneous data store interface; and

the query expression added to the first query component comprises the second query
component.

17.   (Previously presented) The computer-readable storage medium of claim 16,
wherein:

each query component specifies a subset of enterprise data objects; and

the query expression added to the first query component specifies a set of values, the set of values comprising values of a specified attribute of the subset of enterprise data objects specified by the second query component.

18.   (Previously presented) The computer-readable storage medium of claim 13, wherein:

one of a set of valid query operators is provided as the query operator parameter of the add expression behavior of each query component of the object-oriented heterogeneous data store interface; and

the set of valid query operators comprises:

an attribute contains (Contains) query operator that tests if a data object attribute specified by a first query term contains a value specified by a second query term;

a value within (Within) query operator that tests if a value specified by the first query term is within a set of values specified by at least one subsequent query term;

a Has query operator that tests if a data object specified by the first query term has at least one of a set of data objects specified by said at least one subsequent query term; and

a null test (IsNull) query operator that tests if the data object attribute specified by the first query term has a null value.

19.   (Previously presented) The computer-readable storage medium of claim 13, wherein:

each query component specifies a subset of enterprise data objects; and

the method further comprises receiving a set of data store object components of the object-oriented heterogeneous data store interface from the data store component as a result of providing the first query component to the data store component, each data store object

component in the set of data store object components corresponding to an enterprise data object in the subset of enterprise data objects specified by the first query component.

20.   (Previously presented) The computer-readable storage medium of claim 19, wherein each data store object component comprises a field list attribute comprising a field specification for at least one data object attribute of the data object corresponding to the data store object component, the field specification comprising a defer property specifying that retrieval of the data object attribute is deferrable.

21.   (Previously presented) The computer-readable storage medium of claim 20, wherein:

said at least one data object attribute comprises a data object attribute referencing a list of data objects stored in at least one data store; and

the field specification for the data object attribute referencing the list of data objects further comprises a schema path property specifying, at least:

a type of data object in the list of data objects;

a first attribute of each data object in the list of data objects;

a second attribute of the data object corresponding to the data store object component containing the field specification; and

a relationship between the first attribute and the second attribute.

22.   (Previously presented) The computer-readable storage medium of claim 21, wherein the schema path property specifies:

more than one type of data object; and

at least one relationship between attributes of each data object.

23.   (Previously presented) A computerized system, comprising:

(a)   a plurality of data stores, each data store comprising a different data store type, each data store capable of storing at least one data store object;

(b)   an object-oriented heterogeneous data store interface comprising:

(i)   at least one data store object component corresponding to at least one of said at least one data store object stored in said at least one data store;

(ii)   an identity service component including a directory of each data store component, each data store component logically related to the identity service component, the data store component being associated with a data store administrator group, the data store administrator group having the ability to add and remove permissions to access the data store component, the identity service component including a directory of each data store component, wherein the data store objects referenced by the identity service component become logically related;

(iii)   an enterprise component corresponding to the data store component, the enterprise component:

(1)   referencing the data store component by utilizing the directory included in the identity service component;

(2)   referencing at least one identity service component;

(3)   configured to load missing service components, unload unneeded identity service components, and query for identity service component updates; and

(4)   associated with an enterprise administrator group, the enterprise administrator group having the ability to grant, view, change, and remove access permission for each data store user;

(iv)   a query component comprising a query specification attribute; and

(v)   a provider interface comprising a query component behavior specification specifying a query behavior with said query specification attribute of said query component;

(c)   a data store object design graphical user interface configured to enable building of a graphical representation of each data store object corresponding to at least one data store object component of the object-oriented heterogeneous data store interface; and

(d)   a data store object source code generator capable of generating object-oriented programming language source code for each data store object component of the object-oriented heterogeneous data store interface, wherein the data store object source code generator generates object-oriented programming language source code for each data store object component corresponding to the extensible markup language (XML) data store object definition generated from the graphical representation.

24.   (Original) The computerized system of claim 23, further comprising an extensible markup language (XML) data store object definition generator configured to generate an extensible markup language (XML) data store object definition from the graphical representation in accordance with an extensible markup language (XML) data store object definition schema.

25.   (Canceled)

26.   (Previously presented) The computerized system of claim 24, wherein the extensible markup language (XML) data store object definition comprises at least one data store object definition element containing at least one data store object attribute definition element, and each data store object attribute definition element includes a defer property specifying that retrieval of the data store object attribute is deferrable.

27.   (Previously presented) The computerized system of claim 26, wherein:

at least one of said at least one data store object attribute definition element defines a data store object attribute referencing a list of data store objects stored in said at least one data store; and

each data store object attribute definition element that defines the data store object attribute referencing the list of data store objects further includes a schema path property specifying, at least:

            a type of data store object in the list of data store objects;

            a first attribute of each data store object in the list of data store objects;

            a second attribute of the data store object corresponding to the data store object definition element containing the data store object attribute definition element; and

            a relationship between the first attribute and the second attribute.

28.   (Previously presented) The computerized system of claim 27, wherein the schema path property specifies:

more than one type of data store object; and

at least one relationship between attributes of each data store object.

29.   (Original) The computerized system of claim 23:

wherein the object-oriented heterogeneous data store interface further comprises:

a query component; and

a provider interface comprising a query component behavior specification specifying a query behavior with a query component parameter; and

further comprising, for each type of data store, a provider plug-in to the object-oriented heterogeneous data store interface, each provider plug-in comprising at least one provider component configured with a query behavior conforming to the query component behavior specification of the provider interface.

30.   (Previously presented) The computerized system of claim 29, further comprising, for at least one provider plug-in, a corresponding data store object source code generator plug-in capable of generating data store objects for the type of data store associated with the provider plug-in.

31.   (Previously presented) The computerized system of claim 23, wherein the graphical representation of each data store object comprises a security policy designation.